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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/762,052	02/01/2001	Veijo Vaisanen	PM 276618	7542

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EXAMINER	
D AGOSTA, STEPHEN M	

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/762,052	VAISANEN, VEIJO	
	Examiner	Art Unit	
	Stephen M. D'Agosta	2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

The examiner's Non-Final Office Action response to the RCE filed 11-30-04 is found below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9, 12-21 and 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Leitch et al. US6,163,698 and further in view of Ostrup et al. US 6,205,336 and Haartseen US 6,351,643.

As per **claims 1 and 13**, Leitch teaches a method for performing channel configuration in a micro or pico cellular network for use located in the operating area of a macro cell network (figure 1), comprising:

Selecting in a micro or pico network as the channel to be tested a logical control channel to be transmitted on the physical channel of a cell in the cell network

Directing base station (BTS) of cell network of micro/pico cell network and terminals within coverage area of the BTS's of the micro/pico cell network to use the channel to be tested

Establishing by remote control a connection between two or more terminals through BTS's serving the terminals on the channel being tested and making a measurement report on the quality of the connection

Selecting as the channel to be tested the next control channel of a cell of the cell network until the control channels of all desired macro cells have been tested

Determining on the basis of the measurement reports the channels whose use guarantees the best range in the micro/pico cell radio network for use (See Abstract for all above)

But is silent on use and macro/micro/pico cell networks and testing/measuring of control channels.

Ostrup teaches a hierarchy from high-level (eg. umbrella) to low-level (eg. pico cell) coverage whereby a mobile will request service starting at the lowest level and progresses upwards until service is found (abstract, figure 1 and C2, L51-65). This provides means for supporting office/micro cells under an umbrella/macro cell. Hence, one skilled in the art would use this hierarchy for test purposes as taught by Leitch to ensure that any/all BTS channels in the area of the office are tested and can support voice calls.

Haartsen teaches allocating a least-interfered link between mobile and BTS whereby the control channel is measured for interference and the best channel(s) are used for communications (abstract) in macro/micro/pico networks (figure 1, figures 3-5, C1, L15-30, specifically C2, L30-47 and C1, L43-50).

With further regard to claim 13, Leitch teaches a controller/BSC/MSC (figure 1, #102)

It would have been obvious to one skilled in the art at the time of the invention to modify Leitch, such that micro/pico cells are used for offices, to provide means for the system to find optimal links from pico/macro/umbrella BTS's in the area.

As per **claims 2 and 14**, Leitch teaches claim 1/13 wherein the macro cell and the micro/pico cell network for office use are controlled from the same location (figure 1, #102 and/or an MSC which is known in the art would connect to both).

As per **claims 3 and 15**, Leitch teaches claim 1/14 wherin the macro network and the micro/pico cell network for office use are synchronized with each other (figure 1, #102 and/or an MSC or BSC which are known in the art would connect to both).

As per **claims 4 and 16**, Leitch teaches 1/13 wherein a BCCH is used as the control channel of the macro cell network (BCCH's are known in the art as being used as control channels). The examiner interprets Leitch's teaching of monitoring a set of N channels (abstract) as being either voice, pilot or control channels.

As per **claims 5 and 17**, Leitch teaches 1/13 **but is silent on** wherein the office base stations are used as the BTS's of the micro/pico cellular radio network.

Ostrup teaches both macro, micro and pico cells (C2, L51-65). Hence, the examiner interprets either a micro or pico cell as being used as a BTS for the office.

It would have been obvious to one skilled in the art at the time of the invention to modify Leitch, such that the system supports office use, to provide optimal cell coverage in a pico-cell/office area.

As per **claims 6 and 18**, Leitch teaches claim 1/13 wherein mobile phones are used as terminals (C2, L40-45).

As per **claims 7 and 19**, Leitch teaches claim 1/13 wherein a threshold value that the connection quality must meet is used in evaluating the quality of the connection (abstract teaches selecting the strongest signal – one skilled would also provide for a threshold value as well).

As per **claims 8 and 20**, Leitch teaches claim 7/19 in that a BER is used as the threshold value (C4, L12-17).

As per **claims 9 and 21**, Leitch teaches claim 1/13 **but is silent on** wherein the terminal controller of the micro/pcio cell network, controlling the operation of the terminals, is controlled through a data network connected to the micro/pico cell network.

Ostrup teaches connectivity from the MSC/BSC (figure 2, #110) to all base stations (#114-121) via landlines as shown in the diagram. Also, figure 3 shows RBS to ETC/GS (#208 and #206) via landline (#214) as is known in the art.

It would have been obvious to one skilled in the art at the time of the invention to modify Leitch, such that office controller is connected via data network to cell network for office use, to provide means of controlling the office controller/BTS from public BSC/MSC systems.

As per **claims 12 and 24**, Leitch teaches claim 1/13 wherein the physical channel of a macro cell is a time-slot of a radio frequency and the logical control channel of the macro cell is directed to be transmitted at it's time through each time-slot of said frequency (abstract teaches narrowband cellular communication system which reads on TDMA systems that support time-slot communication).

Claims 10-11 and 22-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Leitch/Ostrup and further in view of Plaschke et al. US 6.022,622.

As per **claims 10 and 22**, Leitch teaches claim 1/13 **but is silent on** wherein the channel configuration of the micro/pico cell network for office use is performed when configuring the micro/pico cell network.

Leitch does teach a channel configuration/selection (abstract).

Plaschke teaches dynamic channel allocation (title and abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify Leitch, such that channel configuration(s) are performed when building the cell network for office use, to provide means for the system to dynamically configure optimal channels for use by the mobiles.

As per **claims 11 and 23**, Leitch teaches claim 1/13 **but is silent on** wherein the channel configuration of the micro/pico cellular network is performed at regular intervals.

Leitch does teach channel configuration/selection when needing a voice channel (abstract).

Plaschke teaches dynamic channel allocation that is performed during calls (abstract) which is interpreted as being during regular intervals.

It would have been obvious to one skilled in the art at the time of the invention to modify Leitch, such that channel configurations are performed at regular intervals, to provide means for dynamically adjusting the system to find and use optimal RF channels.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 703-306-5426. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen D'Agosta